

Name: _____

pa1106: Factoring with box when $a = \text{prime}$ (v8)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $7x^2 + 22x + 16$.

*	x	
7x	$7x^2$	$14x$
8	$8x$	16

ANSWER: $(7x + 8)(x + 2)$

Question 2

Use the box to factor $5x^2 + 16x - 16$.

*	x	4
5x	$5x^2$	$20x$
-4	$-4x$	-16

ANSWER: $(5x - 4)(x + 4)$

Question 3

Use the box to factor $3x^2 - 28x + 49$.

*	x	-7
3x	$3x^2$	$-21x$
-7	$-7x$	49

ANSWER: $(3x - 7)(x - 7)$